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| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
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| 10/029,991 | 12/31/2001 | Takeshi Hashimoto | 2001-1790 | 6849 |

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[REDACTED] EXAMINER

ZIMMER, MARC S

| ART UNIT | PAPER NUMBER |
|----------|--------------|
| 1712 | X |

DATE MAILED: 04/10/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

| | | |
|------------------------------|------------------------|---------------------|
| Office Action Summary | Application No. | Applicant(s) |
| | 10/029,991 | HASHIMOTO ET AL. |
| | Examiner | Art Unit |
| | Marc S. Zimmer | 1712 |

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1) Responsive to communication(s) filed on 31 December 2001.

2a) This action is FINAL. 2b) This action is non-final.

3) Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4) Claim(s) 1-11 is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5) Claim(s) _____ is/are allowed.

6) Claim(s) 1-7 and 10 is/are rejected.

7) Claim(s) 8,9 and 11 is/are objected to.

8) Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9) The specification is objected to by the Examiner.

10) The drawing(s) filed on _____ is/are: a) accepted or b) objected to by the Examiner.
 Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

11) The proposed drawing correction filed on _____ is: a) approved b) disapproved by the Examiner.
 If approved, corrected drawings are required in reply to this Office action.

12) The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

13) Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a) All b) Some * c) None of:

1. Certified copies of the priority documents have been received.

2. Certified copies of the priority documents have been received in Application No. 09/433,281.

3. Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

14) Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).

a) The translation of the foreign language provisional application has been received.

15) Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

1) Notice of References Cited (PTO-892)

2) Notice of Draftsperson's Patent Drawing Review (PTO-948)

3) Information Disclosure Statement(s) (PTO-1449) Paper No(s) 3.

4) Interview Summary (PTO-413) Paper No(s). _____

5) Notice of Informal Patent Application (PTO-152)

6) Other: _____

Specification

The case number identified as corresponding to the parent case is incorrect. It should be 09/433,281.

Claim Rejections - 35 USC § 112

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claim 5 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. Claim 5 contains the trademark/trade name 42 alloy. Where a trademark or trade name is used in a claim as a limitation to identify or describe a particular material or product, the claim does not comply with the requirements of 35 U.S.C. 112, second paragraph. See *Ex parte Simpson*, 218 USPQ 1020 (Bd. App. 1982). The claim scope is uncertain since the trademark or trade name cannot be used properly to identify any particular material or product. A trademark or trade name is used to identify a source of goods, and not the goods themselves. Thus, a trademark or trade name does not identify or describe the goods associated with the trademark or trade name. In the present case, the trademark/trade name is used to identify/describe the metal foil to which the laminated board of claim 1 is adhered and, accordingly, the identification/description is indefinite. It is recommended that Applicant replace 42 alloy with "Ni/Fe alloy".

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1-7 and 10 are rejected under 35 U.S.C. 103(a) as being unpatentable over Yoshikawa et al., JP 8-60132 A in view of Maw et al., U.S. Patent # 5,189,128. Yoshikawa discloses an adhesive composition and a textile fabric or non-woven (carbon fiber, aramid fiber, silica fiber, etc. according to paragraph 41) that is impregnated with the same to produce prepreg sheets that may be employed in the aerospace and electronics industries (paragraph 2). The adhesive composition, which comprises a siloxane-modified polyimide prepared from the starting materials outlined in paragraphs 23-29, a bismaleimide that adheres to the requirements delineated in formula 10 (paragraph 8) and an alkenylphenol according to formula 11 (paragraph 9), mirrors the instant invention in virtually respect except that the phenolic compound is derivatized with allyl groups instead of the methallyl groups stipulated by the claim.

However, it has been held that, "it is *prima facie* obvious to substitute equivalents, motivated by the reasonable expectation that the respective species will behave in a comparable manner or give comparable results in comparable circumstances." *In re Ruff* 118 USPQ 343; *In re Jeze/* 158 USPQ 99; "the express suggestion to substitute one equivalent for another need not be present to render the substitution obvious." *In re Font*, 213 USPQ 532. In view of this ruling, it is the position

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of the Office that the instant invention is obvious in view of the considerable structural similarities between an allyl group and a methallyl group.

Maw is cited in support of the Examiner's contention that allyl groups and methallyl groups are equivalent. Maw discloses a composition for impregnating fibers and fabrics that are, in turn, to be employed in the manufacture of circuit boards (column 6, lines 61-68). The composition taught therein resembles that described in the present disclosure insofar as comparable bismaleimide compounds and alkenylphenols are disclosed to be essential ingredients. In column 3, lines 35-43, it is stated that allylphenols and methallylphenols are the preferred embodiments of the alkenylphenol component. Clearly, these materials are regarded by Maw as interchangeable hence the Examiner's assertion that allyl groups and methallyl groups are equivalents is corroborated by the reference.

As for claims 2 and 3, aluminum and iron plates are mentioned as materials to which the prepreg will readily bond (paragraph 6). Adhesion will, of course, not be fully realized until the components are at least partially reacted.

As for claim 6, circuit boards are obvious in view of Yoshikawa's mention of electronic applications and Maw's admission that the similar composition taught therein may be used in the production of circuit boards.

As for claim 7, the embodiment wherein X corresponds to a biphenyl moiety is disclosed in paragraph 23. The bis(phenyl)methyl embodiment of the variable "Ar" is disclosed in paragraph 28. According to paragraph 7, siloxane units constitute between 1 and 50% of the copolymer.

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As for claim 10, the thickness of the metal layer is not expressly divulged by the reference. Nonetheless, one of ordinary skill in the art is quite familiar with what metal layer thickness is best suited for manufacturing circuit boards. Furthermore, Applicant has not established criticality for this parameter of the invention.

Allowable Subject Matter

Claims 8-9 and 11 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims. Embodiments wherein the crosslinking agent is an isocyanurate derivative are not contemplated by the primary reference. Likewise, there is no mention of a peelable layer opposite the metal layer.

Cited as being of interest are Takei et al., JP 5-230368 and Yamaguchi et al., U.S. Patent Application Publication no. 2003/0026998. The former teaches (b) and (c) of the instant invention but the polyimide component is not siloxane-modified as is presently required. Yamaguchi, by contrast, teaches a composition comprising a siloxane-modified polyimide and a bismaleimide but is silent as to the inclusion of a crosslinking agent resembling (b). The Examiner could not ascertain why one of ordinary skill would have been motivated to combine these references.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Marc S. Zimmer whose telephone number is 703-605-1176. The examiner can normally be reached on Monday-Friday 8:00-4:30.

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If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Robert Dawson can be reached on 703-308-2340. The fax phone numbers for the organization where this application or proceeding is assigned are 703-872-9310 for regular communications and 703-872-9311 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-308-0661.

April 3, 2003



Robert Dawson
Supervisory Patent Examiner
Technology Center 1700